

## ABSTRACT OF THE DISCLOSURE

The present invention relates to diagnostic methods for assessing predisposition of a subject to a mental disorder phenotype having an association with an at-risk allele of a brain-functional gene having a plurality of alleles, the association being conditioned by a pathogenic environmental risk factor status condition. Additionally, the invention relates to methods for discovering a conditional association between a mental disorder phenotype and an at-risk allele of a brain-functional gene having a plurality of alleles, the association being conditioned by a pathogenic environmental risk factor status condition.